REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

Before addressing the obviousness rejections raised in the outstanding Office Action, applicants have amended Claims 14, 18, 19 and 21 and have cancelled Claims 17, 20 and 22. Specifically, Claim 14 has been amended to positively recite that the upper gate region 40 includes a lower polysilicon portion and an upper portion including one of Al, W, Cu, Ti and a silicide. Support for this amendment to Claim 14 is found at Page 10, lines 11-12 of the present application. This amendment to Claim 14 necessitated the minor amendments that were made to Claims 18 and 19.

With respect to Claim 21, applicants have amended that claim to positively recite that claimed structure includes an upper gate conductor region 40 comprising an upper portion of W located on a lower portion of polysilicon. Support for this amendment to Claim 21 is also found at Page 10, lines 11-12 of the originally filed application.

Applicants note that the upper conductor region 40, which includes the lower polysilicon portion and an upper portion comprising W or the other elements listed in amended Claim 14, is located on a recessed bottom polysilicon region.

Since the above amendments to the claims do not introduce new matter into the instant application, entry thereof is respectfully requested.

In the outstanding Office Action, Claims 14, 15 and 17-22 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of U.S. Patent No. 6,500,743 to Lopatin et al. ("Lopatin et al.") and U.S. Patent Application Publication No. 20040157380 to Cappellani et al. ("Cappellani et al."). Claim 16 stands rejected under

35 U.S.C. § 103 as allegedly unpatentable over the combined disclosures of Lopatin et al., Cappellani et al. and U.S. Patent No. 7,008,832 to Subramanian et al. ("Subramanian et al.").

In regard to the obviousness rejections, applicants respectfully submit that the applied references do not render the claimed structure obvious since the applied references do not teach or suggest the claimed features recited in the claims of the present application. Specifically, the applied references do not teach or suggest a semiconductor structure including a T-gate that comprises (i) a recessed bottom polysilicon region and an upper gate conductor region, wherein the *upper gate conductor region has a width that is greater than a width of said bottom polysilicon region and comprises a lower polysilicon portion and an upper portion including one of Al, W, Cu, Ti and a silicide*, as is recited in amended Claim 14, or (ii) a recessed bottom polysilicon region and *an upper gate conductor region comprising an upper portion of W located on a lower portion of polysilicon*, said upper gate conductor region has a width that is greater than a width of said bottom polysilicon region, as recited in amended Claim 21.

The primary reference, i.e., Lopatin et al., spurring the obviousness rejections discloses a T-gate including a bottom polySi region 104 and an upper gate conductor region 1604, which has a width that is larger than the width of the bottom polySi region 104. The upper gate conductor region comprises Cu. Lopatin et al. does not teach or suggest that the upper gate conductor region 1604 comprises a gate stack, let alone one that includes a bottom polysilicon portion and an upper portion that comprises one of the elements recited in amended Claim 14 or 21. Applicants find no teaching, suggestion or motivation in Lopatin et al. to replace Cu with a gate stack comprising a lower polySi

portion and an upper portion that comprises one Al, W, Cu, Ti and a silicide, as is presently claimed.

Cappellani et al. does not alleviate the above mentioned defect in Lopatin et al. since the applied reference also does not teach or suggest a T-gate that comprises (i) a recessed bottom polysilicon region and an upper gate conductor region, wherein the *upper gate conductor region has a width that is greater than a width of said bottom polysilicon region and comprises a lower polysilicon portion and an upper portion including one of Al, W, Cu, Ti and a silicide*, as is recited in amended Claim 14, or (ii) a recessed bottom polysilicon region and *an upper gate conductor region comprising an upper portion of W located on a lower portion of polysilicon*, said upper gate conductor region has a width that is greater than a width of said bottom polysilicon region, as recited in amended Claim 21.

In contrast, Cappellani et al. discloses a T-gate structure including a bottom polysilicon region 3, and an upper gate region 5 that was a width greater than that of the lower region 3. In accordance with the applied reference, the upper gate region 5 comprises W. Applicants find no teaching or suggestion of the claimed T-gate structure which includes an upper gate conductor region that comprises a stack of a lower polySi portion and an upper portion comprising one of the claimed elements. As such, the combination of Lopatin et al. and Cappellani et al. does not render the claimed invention obvious.

Subramanian et al. does not alleviate the defect in the combined disclosures of Lopatin et al. and Cappellani et al. since the applied reference also does not teach or suggest the claimed T-gate structure. In contrast, Subramanian et al. discloses a T-gate

structure 37 that includes a lower portion 36 and an upper portion 39, wherein the upper portion 39 has a width that is greater than the lower portion 36. In accordance with the applied reference, the T-gate 37 comprises a semiconductor material or a metal. Subramanian et al. does not teach or suggest using different materials within the lower and upper portions as presently claimed. Moreover, Subramanian et al. does not teach or suggest that the upper portion 39 comprises a gate stack, let alone the claimed gate stack comprising polySi and one of Al, W, Cu, Ti and a silicide, as presently claimed. As such, the combination of Lopatin et al., Cappellani et al. and Subramanian et al. does not render the claimed invention obvious.

The various §103 rejections also fail because there is no motivation in the applied references which suggest modifying the disclosed T-gate structures to include the various elements recited in the claims of the present invention. Thus, there is no motivation provided in the applied references, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Vaeck, 947 F.2d, 488, 493, 20 USPQ 2d. 1438, 1442 (Fed.Cir. 1991).

The rejections under 35 U.S.C. §103 have been obviated; therefore reconsideration and withdrawal thereof is respectfully requested.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

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